Smart, Simple & Stable

945GCM-S
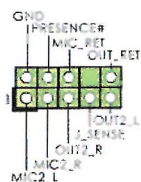Quick Installation Guide

ASRock®

English
Deutsch
Français
Italiano
Español
Русский
**Português**

Pin Header Easy Installation Guide

ASRock motherboard is equipped with pin headers with obvious colors which indicate you to recognize the crucial headers more easily. Please refer to below illustrations for the pin definition of onboard headers. If you want to have more information about the usage of these headers, please refer to the content of this quick installation guide for details.
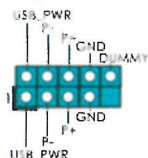
Front Panel Audio Header
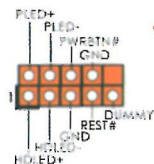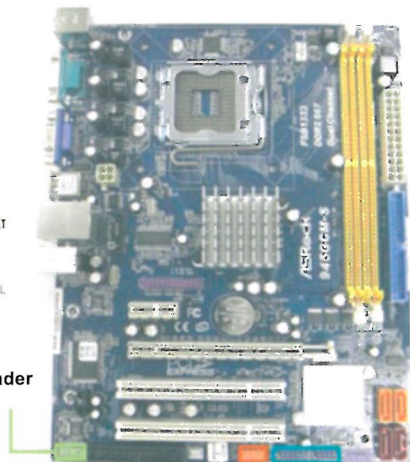
System Panel Header
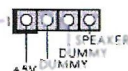
Chassis Speaker Header

USB 2.0 Header

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ASRock Website: http://www.asrock.com

English

ASRock 945GCM-S Motherboard

Motherboard Layout

|			
1	PS2_USB_PWR1 Jumper	15	USB 2.0 Header (USB6_7, Blue)
2	775-Pin CPU Socket	16	USB 2.0 Header (USB4_5, Blue)
3	North Bridge Controller	17	System Panel Header (PANEL1, Orange)
4	CPU Fan Connector (CPU_FAN1)	18	BIOS SPI Chip
5	2 x 240-pin DDR2 DIMM Slots	19	Chassis Fan Connector (CHA_FAN1)
	(Dual Channel: DDRII_1, DDRII_2; Yellow)	20	Floppy Connector (FLOPPY1)
6	ATX Power Connector (ATXPWR1)	21	Front Panel Audio Header
7	IDE1 Connector (IDE1, Blue)		(HD_AUDIO1, Lime)
8	Clear CMOS Jumper (CLRCMOS1)	22	PCI Slots (PCI1- 2)
9	South Bridge Controller	23	AInternal Audio Connector: CD1 (Black)
10	Third SATAII Connector (SATAII_3; Orange)	24	PCI Express x16 Slot (PCIE2)
11	Fourth SATAII Connector (SATAII_4; Orange)	25	PCI Express x1 Slot (PCIE1)
12	Secondary SATAII Connector (SATAII_2; Red)	26	Print Port Header (LPT1, Purple)
13	Primary SATAII Connector (SATAII_1; Red)	27	OC 800 Jumper
14	Chassis Speaker Header (SPEAKER 1, Purple)	28	ATX 12V Connector (ATX12V1)

ASRock 945GCM-S Motherboard

I/O Panel
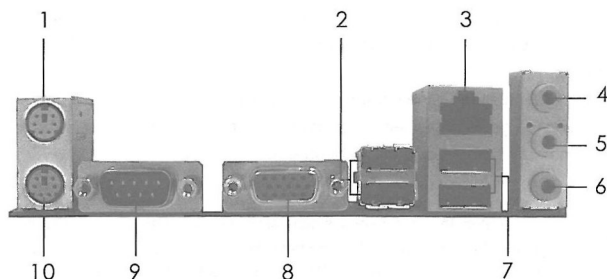
1	PS/2 Mouse Port (Green)	6	Microphone (Pink)
2	USB 2.0 Ports (USB23)	7	USB 2.0 Ports (USB01)
3	RJ-45 Port	8	VGA Port
4	Line In (Light Blue)	9	COM Port
5	Line Out (Lime)	10	PS/2 Keyboard Port (Purple)

* To enable Multi-Streaming function, you need to connect a front panel audio cable to the front panel audio header. Please refer to below steps for the software setting of Multi-Streaming.
  For Windows® XP:
  After restarting your computer, you will find "Mixer" tool on your system. Please select "Mixer ToolBox" [icon] , click "Enable playback multi-streaming", and click "ok". Choose "2CH" or "4CH" and then you are allowed to select "Realtek HDA Primary output" to use Rear Speaker and Front Speaker, or select "Realtek HDA Audio 2nd output" to use front panel audio. Then reboot your system.
  For Windows® Vista™:
  After restarting your computer, please double-click "Realtek HD Audio Manager" on the system tray. Set "Speaker Configuration" to "Quadraphonic" or "Stereo". Click "Device advanced settings", choose "Make front and rear output devices playbacks two different audio streams simultaneously", and click "ok". Then reboot your system.

English

1. Introduction

Thank you for purchasing ASRock *945GCM-S* motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

This Quick Installation Guide contains introduction of the motherboard and step-by-step installation guide. More detailed information of the motherboard can be found in the user manual presented in the Support CD.

> Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website   http://www.asrock.com
> If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.
> www.asrock.com/support/index.asp

1.1 Package Contents

ASRock *945GCM-S* Motherboard
  (Micro ATX Form Factor: 9.6-in x 7.5-in, 24.4 cm x 19.1 cm)
ASRock *945GCM-S* Quick Installation Guide
ASRock *945GCM-S* Support CD
One 80-conductor Ultra ATA 66/100 IDE Ribbon Cable (Optional)
One Serial ATA (SATA) Data Cable (Optional)
One Serial ATA (SATA) HDD Power Cable (Optional)
One I/O Panel Shield

1.2 Specifications

Platform	- Micro ATX Form Factor: 9.6-in x 7.5-in, 24.4 cm x 19.1 cm
CPU	- LGA 775 for Intel® Dual Core Core™ 2 Extreme / Core™ 2 Duo / Pentium® Dual Core / Celeron®, supporting Dual Core Wolfdale processors - Compatible with all FSB1333/1066/800/533MHz CPUs except Quad Core (see **CAUTION 1**) - Supports Hyper-Threading Technology (see **CAUTION 2**) - Supports Untied Overclocking Technology (see **CAUTION 3**) - Supports EM64T CPU
Chipset	- Northbridge: Intel® 945GC - Southbridge: Intel® ICH7
Memory	- Dual Channel DDR2 Memory Technology (see **CAUTION 4**) - 2 x DDR2 DIMM slots - Supports DDR2 667/533 non-ECC, un-buffered memory (see **CAUTION 5**) - Max. capacity of system memory: 4GB (see **CAUTION 6**)
Expansion Slot	- 1 x PCI Express x16 slot - 1 x PCI Express x1 slot - 2 x PCI slots
Graphics	- Intel® Graphics Media Accelerator 950 - Pixel Shader 2.0, DirectX 9.0 - Max. shared memory 224MB (see **CAUTION 7**)
Audio	- 5.1 CH Windows® Vista™ Premium Level HD Audio (Realtek ALC662 Audio Codec)
LAN	- Realtek PCIE x1 LAN 8102EL - Speed: 10/100 Ethernet - Supports Wake-On-LAN
Rear Panel I/O	I/O Panel - 1 x PS/2 Mouse Port - 1 x PS/2 Keyboard Port - 1 x Serial Port: COM1 - 1 x VGA Port - 4 x Ready-to-Use USB 2.0 Ports - 1 x RJ-45 LAN Port - HD Audio Jack: Line in / Front Speaker / Microphone
Connector	- 4 x SATAII 3.0 Gb/s connectors (No Support for RAID and "Hot Plug" functions) (see **CAUTION 8**) - 1 x ATA100 IDE connector (supports 2 x IDE devices) - 1 x Floppy connector

	- 1 x Print port header - CPU/Chassis FAN connector - 24 pin ATX power connector - 4 pin 12V power connector - CD in header - Front panel audio connector - 2 x USB 2.0 headers (support 4 USB 2.0 ports) (see **CAUTION 9**)
BIOS Feature	- 4Mb AMI BIOS - AMI Legal BIOS - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - AMBIOS 2.3.1 Support - Supports Smart BIOS
Support CD	- Drivers, Utilities, AntiVirus Software (Trial Version)

Unique Feature	- Intelligent Energy Saver (see **CAUTION 10**)
	- Hybrid Booster:
	    - CPU Frequency Stepless Control (see **CAUTION 11**)
	    - ASRock U-COP (see **CAUTION 12**)
	    - Boot Failure Guard (B.F.G.)

Hardware Monitor	- CPU Temperature Sensing - Chassis Temperature Sensing - CPU Fan Tachometer - Chassis Fan Tachometer - CPU Quiet Fan - Voltage Monitoring: +12V, +5V, +3.3V, Vcore
OS	- Microsoft® Windows® 2000 / XP / XP 64-bit / Vista™ / Vista™ 64-bit compliant
Certifications	- FCC, CE

* For detailed product information, please visit our website: http://www.asrock.com

English

CAUTION!

1. FSB1333-CPU will operate in overclocking mode. Under this situation, PCIE frequency will also be overclocked to 115MHz. Besides, if you want to overclock the CPU you adopt from FSB800 to FSB1066, you need to adjust the jumpers. Please refer to page 14 for proper jumper settings.

2. About the setting of "Hyper Threading Technology", please check page 30 of "User Manual" in the support CD.

3. This motherboard supports Untied Overclocking Technology. Please read "Untied Overclocking Technology" on page 19 for details.

4. This motherboard supports Dual Channel Memory Technology. Before you implement Dual Channel Memory Technology, make sure to read the installation guide of memory modules on page 12 for proper installation.

5. Please check the table below for the CPU FSB frequency and its corresponding memory support frequency.

CPU FSB Frequency	Memory Support Frequency
1333	DDR2 533*, DDR2 667
1066	DDR2 533, DDR2 667
800	DDR2 400, DDR2 533, DDR2 667
533	DDR2 400, DDR2 533

   * When you use a FSB1333-CPU on this motherboard, it will run at DDR2 500 if you adopt a DDR2 533 memory module.

6. Due to the chipset limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® XP, Windows® XP 64-bit, Windows® Vista™ and Windows® Vista™ 64-bit.

7. The maximum shared memory size is defined by the chipset vendor and is subject to change. Please check Intel® website for the latest information.

8. Before installing SATAII hard disk to SATAII connector, please read the "SATAII Hard Disk Setup Guide" on page 23 of "User Manual" in the support CD to adjust your SATAII hard disk drive to SATAII mode. You can also connect SATA hard disk to SATAII connector directly.

9. Power Management for USB 2.0 works fine under Microsoft® Windows® Vista™ 64-bit / Vista™ / XP 64-bit / XP SP1 or SP2 / 2000 SP4.

10. Featuring an advanced proprietary hardware and software design, Intelligent Energy Saver is a revolutionary technology that delivers unparalleled power savings. In other words, it is able to provide exceptional power saving and improve power efficiency without sacrificing computing performance. Please visit our website for the operation procedures of Intelligent Energy Saver.
ASRock website: http://www.asrock.com

11. Although this motherboard offers stepless control, it is not recommended to perform over-clocking. Frequencies other than the recommended CPU bus frequencies may cause the instability of the system or damage the CPU.

English

12. While CPU overheat is detected, the system will automatically shutdown. Before you resume the system, please check if the CPU fan on the motherboard functions properly and unplug the power cord, then plug it back again. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system.

2. Installation

Pre-Installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Unplug the power cord from the wall socket before touching any component. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antstatic pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

2.1 CPU Installation

For the installation of Intel 775-LAND CPU, please follow the steps below.
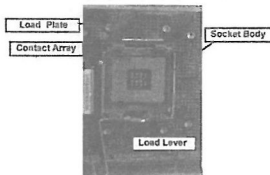
775-Pin Socket Overview

Before you insert the 775-LAND CPU into the socket, please check if the CPU surface is unclean or if there is any bent pin on the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.

Step 1. Open the socket:
 Step 1-1. Disengaging the lever by depressing down and out on the hook to clear retention tab.

  Step 1-2. Rotate the load lever to fully open position at approximately 135 degrees.
 Step 1-3. Rotate the load plate to fully open position at approximately 100 degrees.

Step 2. Insert the 775-LAND CPU:
  Step 2-1. Hold the CPU by the edges where are marked with black lines.

black line   black line
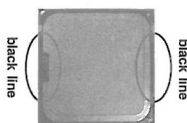
  Step 2-2. Orient the CPU with IHS (Integrated Heat Sink) up. Locate Pin1 and the two orientation key notches.

Pin1 →
orientation   orientation
key notch   key notch

Pin1
alignment key   alignment key

775-Pin Socket

775-LAND CPU
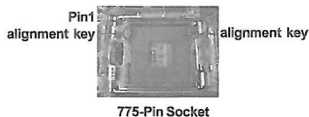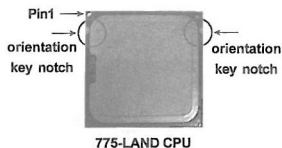
For proper inserting, please ensure to match the two orientation key notches of the CPU with the two alignment keys of the socket.

  Step 2-3. Carefully place the CPU into the socket by using a purely vertical motion.
  Step 2-4. Verify that the CPU is within the socket and properly mated to the orient keys.

Step 3. Remove PnP Cap (Pick and Place Cap):
  Use your left hand index finger and thumb to support the load plate edge, engage PnP cap with right hand thumb and peel the cap from the socket while pressing on center of PnP cap to assist in removal.

English

Step 4. Close the socket:
Step 4-1. Rotate the load plate onto the IHS.
Step 4-2. While pressing down lightly on load plate, engage the load lever.
Step 4-3. Secure load lever with load plate tab under retention tab of load lever.
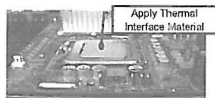
2.2 Installation of CPU Fan and Heatsink

For proper installation, please kindly refer to the instruction manuals of your CPU fan and heatsink.

Below is an example to illustrate the installation of the heatsink for 775-LAND CPU.

Step 1. Apply thermal interface material onto center of IHS on the socket surface.

Step 2. Place the heatsink onto the socket. Ensure fan cables are oriented on side closest to the CPU fan connector on the motherboard (CPU_FAN1, see page 2, No. 4).
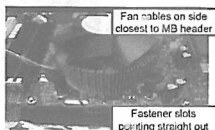
Step 3. Align fasteners with the motherboard throughholes.

Step 4. Rotate the fastener clockwise, then press down on fastener caps with thumb to install and lock. Repeat with remaining fasteners.
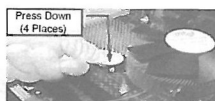
If you press down the fasteners without rotating them clockwise, the heatsink cannot be secured on the motherboard.

Step 5. Connect fan header with the CPU fan connector on the motherboard.

Step 6. Secure excess cable with tie-wrap to ensure cable does not interfere with fan operation or contact other components.

English

ASRock 945GCM-S Motherboard

2.3 Installation of Memory Modules (DIMM)

945GCM-S motherboard provides two 240-pin DDR2 (Double Data Rate 2) DIMM slots, and supports Dual Channel Memory Technology. For dual channel configuration, you always need to install two **identical** (the same brand, speed, size and chip-type) memory modules in the DDR2 DIMM slots to activate Dual Channel Memory Technology. Otherwise, it will operate at single channel mode.

1. It is not allowed to install a DDR memory module into DDR2 slot; otherwise, this motherboard and DIMM may be damaged.
2. If you install only one memory module or two non-identical memory modules, it is unable to activate the Dual Channel Memory Technology.

Installing a DIMM

Please make sure to disconnect power supply before adding or removing DIMMs or the system components.

Step 1.   Unlock a DIMM slot by pressing the retaining clips outward.

Step 2.   Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.
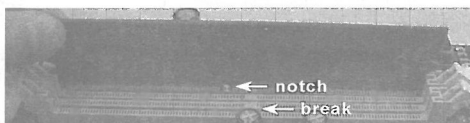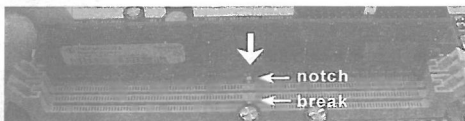
The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

Step 3.   Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

12

2.4 Expansion Slots (PCI and PCI Express Slots)

There are 2 PCI slots and 2 PCI Express slots on this motherboard.

PCI slots: PCI slots are used to install expansion cards that have the 32-bit PCI interface.

PCIE slots:

PCIE1 (PCIE x1 slot) is used for PCI Express cards with x1 lane width cards, such as Gigabit LAN card, SATA2 card, etc.

PCIE2 (PCIE x16 slot) is used for PCI Express cards with x16 lane width graphics cards.

If you install the add-on PCI Express VGA card to PCIE2 (PCIE x16 slot), the onboard VGA will be disabled. If you install the add-on PCI Express VGA card to PCIE2 (PCIE x16 slot) and adjust the "Internal Graphics Mode Select" BIOS option to [Enabled], the onboard VGA will be enabled, and the primary screen will be onboard VGA.

Installing an expansion card

Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

Step 3. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 4. Fasten the card to the chassis with screws.

English

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is "Short". If no jumper cap is placed on pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when jumper cap is placed on these 2 pins.

Short   Open
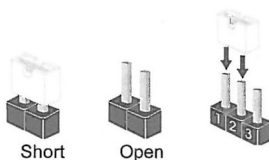
Jumper	Setting	Description
PS2_USB_PWR1 (see p.2 No. 1)	1_2 +5V 2_3 +5VSB	Short pin2, pin3 to enable +5VSB (standby) for PS/2 or USB wake up events.

Note: To select +5VSB, it requires 2 Amp and higher standby current provided by power supply.

Clear CMOS
(CLRCMOS1, 2-pin jumper)
(see p.2 No. 8)

2-pin jumper

Note: CLRCMOS1 allows you to clear the data in CMOS. The data in CMOS includes system setup information such as system password, date, time, and system setup parameters. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short 2 pins on CLRCMOS1 for 5 seconds.

OC 800 Jumper
(OC 800, 3-pin jumper, see p.2 No. 27)

1_2

Default

Note: If you want to overclock the FSB800-CPU (e.g. Cel400, E1000, E2000, E4000, E5000, E6000 series CPU) to FSB1066 on this motherboard, you need to adjust the jumpers. Please short pin2, pin3. Otherwise, the CPU may not work properly on this motherboard. Please refer to below jumper settings.

2_3

English

2.6 Onboard Headers and Connectors

⚠ Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

FDD connector (33-pin FLOPPY1) (see p.2 No. 20)	PIN1 FLOPPY1	the red-striped side to Pin1

Note: Make sure the red-striped side of the cable is plugged into Pin1 side of the connector.

Primary IDE connector (Blue)

(39-pin IDE1, see p.2 No. 7)

PIN1 IDE1
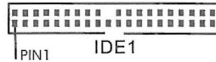
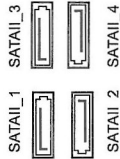connect the blue end   connect the black end
to the motherboard   to the IDE devices
        80-conductor ATA 66/100 cable

Note: Please refer to the instruction of your IDE device vendor for the details.

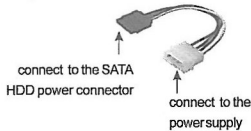|		
Serial ATAII Connectors (SATAII_1: see p.2, No. 13) (SATAII_2: see p.2, No. 12) (SATAII_3: see p.2, No. 10) (SATAII_4: see p.2, No. 11)	SATAII_3 SATAII_4 SATAII_1 SATAII_2	These Serial ATAII (SATAII) connectors support SATAII or SATA hard disk for internal storage devices. The current SATAII interface allows up to 3.0 Gb/s data transfer rate.

Serial ATA (SATA) Data Cable (Optional)		Either end of the SATA data cable can be connected to the SATA / SATAII hard disk or the SATAII connector on the motherboard.

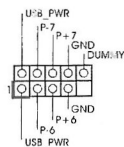|		
Serial ATA (SATA) Power Cable (Optional)	connect to the SATA HDD power connector connect to the power supply	Please connect the black end of SATA power cable to the power connector on each drive. Then connect the white end of SATA power cable to the power connector of the power supply.

USB 2.0 Headers

(9-pin USB6_7)
(see p.2 No. 15)

(9-pin USB4_5)
(see p.2 No. 16)

USB_PWR
P-7
P+7
GND
DUMMY
GND
P+6
P-6
USB_PWR

USB_PWR
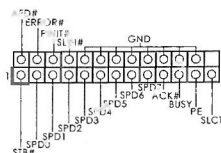P-5
P+5
GND DUMMY
GND
P+4
USB_PWR
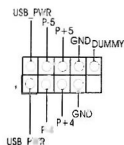
Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

Print Port Header

(25-pin LPT1)
(see p.2 No. 26)

AFD#
ERROR#
PRINT#
SLIN#
GND
SPD7
SPD6 ACK#
SPD5 BUSY
SPD4 PE
SPD3 SLCT
SPD2
SPD1
SPD0
STB#

This is an interface for print port cable that allows convenient connection of printer devices.

Internal Audio Connector

(4-pin CD1)
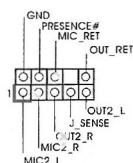(CD1: see p.2 No. 23)

CD-L
GND
GND
CD-R

CD1

This connector allows you to receive stereo audio input from sound sources such as a CD-ROM, DVD-ROM, TV tuner card, or MPEG card.

Front Panel Audio Header

(9-pin HD_AUDIO1)
(see p.2 No. 21)

GND
PRESENCE#
MIC_RET
OUT_RET

OUT2_L
J_SENSE
OUT2_R
MIC2_R
MIC2_L

This is an interface for front panel audio cable that allows convenient connection and control of audio devices.

1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system.
2. If you use AC'97 audio panel, please install it to the front panel audio header as below:
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).

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D. MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.

E. Enter BIOS Setup Utility. Enter Advanced Settings, and then select Chipset Configuration. Set the Front Panel Control option from [Auto] to [Enabled].

F. Enter Windows system. Click the icon on the lower right hand taskbar to enter Realtek HD Audio Manager.

For Windows® 2000 / XP / XP 64-bit OS:

Click "Audio I/O", select "Connector Settings"   , choose

"Disable front panel jack detection", and save the change by clicking "OK".

For Windows® Vista™ / Vista™ 64-bit OS:

Click the right-top "Folder" icon   , choose "Disable front

panel jack detection", and save the change by clicking "OK".

G. To activate the front mic.

For Windows® 2000 / XP / XP 64-bit OS:

Please select "Front Mic" as default record device.

If you want to hear your voice through front mic, please deselect "Mute" icon in "Front Mic" of "Playback" portion.
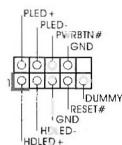
For Windows® Vista™ / Vista™ 64-bit OS:

Go to the "Front Mic" Tab in the Realtek Control panel.

Click "Set Default Device" to make the Front Mic as the default record device.

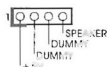|		
System Panel Header (9-pin PANEL1) (see p.2 No. 17)	PLED + PLED- PWRBTN# GND DUMMY RESET# GND HDLED- HDLED +	This header accommodates several system front panel functions.
Chassis Speaker Header (4-pin SPEAKER 1) (see p.2 No. 14)	SPEAKER DUMMY DUMMY +5V	Please connect the chassis speaker to this header.
Chassis Fan Connector (3-pin CHA_FAN1) (see p.2 No. 19)	GND +12V CHA_FAN_SPEED	Please connect a chassis fan cable to this connector and match the black wire to the ground pin.
CPU Fan Connector (4-pin CPU_FAN1) (see p.2 No. 4)	1 GND 2 +12V 3 CPU_FAN_SPEED 4 FAN_SPEED_CONTROL	Please connect a CPU fan cable to this connector and match the black wire to the ground pin.
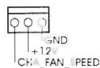
English

Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.
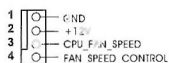
Pin 1-3 Connected ←—

3-Pin Fan Installation

ATX Power Connector

(24-pin ATXPWR1)

(see p.2, No. 6)

12 ☐☐ 24

1 ☐ 13

Please connect an ATX power supply to this connector.

Though this motherboard provides 24-pin ATX power connector, it can still work if you adopt a traditional 20-pin ATX power supply. To use the 20-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 13.

20-Pin ATX Power Supply Installation

12   24

1   13

ATX 12V Connector

(4-pin ATX12V1)

(see p.2 No. 28)

Please note that it is necessary to connect a power supply with ATX 12V plug to this connector so that it can provides sufficient power. Failing to do so will cause the failure to power up.

2.7 Serial ATA (SATA) / Serial ATAII (SATAII) Hard Disks Installation

This motherboard adopts Intel® ICH7 south bridge chipset that supports Serial ATA (SATA) / Serial ATAII (SATAII) hard disks. You may install SATA / SATAII hard disks on this motherboard for internal storage devices. This section will guide you to install the SATA / SATAII hard disks.

STEP 1: Install the SATA / SATAII hard disks into the drive bays of your chassis.
STEP 2: Connect the SATA power cable to the SATA / SATAII hard disk.
STEP 3: Connect one end of the SATA data cable to the motherboard's SATAII connector.
STEP 4: Connect the other end of the SATA data cable to the SATA / SATAII hard disk.

2.8 Driver Installation Guide

To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from up to bottom side to install those required drivers. Therefore, the drivers you install can work properly.

2.9 Untied Overclocking Technology

This motherboard supports Untied Overclocking Technology, which means during overclocking, FSB enjoys better margin due to fixed PCI / PCIE buses. Before you enable Untied Overclocking function, please enter "Overclock Mode" option of BIOS setup to set the selection from [Auto] to [CPU, PCIE, Async.]. Therefore, CPU FSB is untied during overclocking, but PCI / PCIE buses are in the fixed mode so that FSB can operate under a more stable overclocking environment.

English

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3. BIOS Information

The Flash Memory on the motherboard stores BIOS Setup Utility. When you start up the computer, please press <F2> during the Power-On-Self-Test (POST) to enter BIOS Setup utility; otherwise, POST continues with its test routines. If you wish to enter BIOS Setup after POST, please restart the system by pressing <Ctl> + <Alt> + <Delete>, or pressing the reset button on the system chassis. The BIOS Setup program is designed to be user-friendly. It is a menu-driven program, which allows you to scroll through its various sub-menus and to select among the predetermined choices. For the detailed information about BIOS Setup, please refer to the User Manual (PDF file) contained in the Support CD.

4. Software Support CD information

This motherboard supports various Microsoft® Windows® operating systems: 2000 / XP / XP 64-bit / Vista™ / Vista™ 64-bit. The Support CD that came with the motherboard contains necessary drivers and useful utilities that will enhance motherboard features. To begin using the Support CD, insert the CD into your CD-ROM drive. It will display the Main Menu automatically if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double-click on the file "ASSETUP. EXE" from the BIN folder in the Support CD to display the menus.

English

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